US 20110166413A1

(19) United States

(12) Patent Application Publication

(10) Pub. No.: US 2011/0166413 A1

(43) Pub. Date: Jul. 7, 2011

ALFERNESS et al.

(54) **COMPLIANT CARDIAC SUPPORT DEVICE**

(75) Inventors: **Clifton A. ALFERNESS**, Port Orchard, WA (US); **Donald G. ROHRBAUGH**, Minnetonka, MN (US); **James Edward SHAPLAND**, Vadnais Heights, MN (US); **Michael J. GIRARD**, Lino Lakes, MN (US); **Donald F. PALME, II**, Princeton, MN (US); **James E. COX**, Corcoran, MN (US)

(73) Assignee: **Mardil, Inc.**, Orono, MN (US)

(21) Appl. No.: **13/049,499**

(22) Filed: **Mar. 16, 2011**

Related U.S. Application Data

(63) Continuation of application No. 12/752,614, filed on Apr. 1, 2010, now abandoned, which is a continuation of application No. 11/144,353, filed on Jun. 3, 2005, now abandoned, which is a continuation of application No. 10/716,020, filed on Nov. 17, 2003, now Pat. No. 6,902,524, which is a continuation of application No. 10/279,176, filed on Oct. 23, 2002, now Pat. No. 6,682,476, which is a continuation of application No. 09/593,251, filed on Jun. 13, 2000, now Pat. No. 6,482,146.

Publication Classification

(51) **Int. Cl.**
A61F 2/00 (2006.01)

(52) **U.S. Cl.** **600/37**

(57) **ABSTRACT**

A jacket of biological compatible material has an internal volume dimensioned for an apex of the heart to be inserted into the volume and for the jacket to be slipped over the heart. The jacket has a longitudinal dimension between upper and lower ends sufficient for the jacket to surround a lower portion of the heart with the jacket surrounding a valvular annulus of the heart and further surrounding the lower portion to cover at least the ventricular lower extremities of the heart. The jacket is adapted to be secured to the heart with the jacket surrounding at least the valvular annulus and the ventricular lower extremities. The jacket is adjustable on the heart to snugly conform to an external geometry of the heart and assume a maximum adjusted volume for the jacket to constrain circumferential expansion of the heart beyond the maximum adjusted volume during diastole and to permit unimpeded contraction of the heart during systole.